

**Amendments to the Claims:**

1-5 (cancelled)

6 (currently amended): An interleaver comprising: a birefringent element assembly providing two output components which are generally orthogonal to each other; and a reflector configured to direct the two components from the birefringent element assembly back through the birefringent element assembly;

~~The interleaver as recited in claim 1~~, wherein the phase delays and the angular orientations of birefringent elements of the birefringent element assembly are selected from the table:

Table III

<u>First Stage Phase Delays</u>	<u>First Stage Orientations</u>	<u>Second Stage Phase Delays</u>	<u>Second Stage Orientations</u>
$\Gamma + 2m_1 \pi$ , $2\Gamma + 2m_2 \pi$ , $2\Gamma + 2m_3 \pi$	$\varphi_1, \varphi_2, \varphi_3$	$2\Gamma' + 2k_3 \pi$ , $2\Gamma' + 2k_2 \pi$ , $\Gamma' + 2k_1 \pi$	$90^\circ \pm \varphi_3, 90^\circ \pm \varphi_2, 90^\circ \pm \varphi_1$ (parallel component) $\pm \varphi_3, \pm \varphi_2, \pm \varphi_1$ (orthogonal component) where $\Gamma - \Gamma' = 2l\pi$
$\Gamma + 2m_1 \pi$ , $2\Gamma + 2m_2 \pi$ , $2\Gamma + 2m_3 \pi$	$\varphi_1, \varphi_2, \varphi_3$	$2\Gamma' + 2k_3 \pi$ , $2\Gamma' + 2k_2 \pi$ , $\Gamma' + 2k_1 \pi$	$90^\circ \pm \varphi_3, 90^\circ \pm \varphi_2, 90^\circ \pm \varphi_1$ (parallel component) $\pm \varphi_3, \pm \varphi_2, \pm \varphi_1$ (orthogonal component) where $\Gamma - \Gamma' = (2l + 1)\pi$
$2\Gamma + 2m_3 \pi$ , $2\Gamma + 2m_2 \pi$ , $\Gamma + 2m_1 \pi$	$\varphi_3, \varphi_2, \varphi_1$	$\Gamma' + 2k_1 \pi$ , $2\Gamma' + 2k_2 \pi$ , $2\Gamma' + 2k_3 \pi$	$90^\circ \pm \varphi_1, 90^\circ \pm \varphi_2, 90^\circ \pm \varphi_3$ (parallel component) $\pm \varphi_1, \pm \varphi_2, \pm \varphi_3$ (orthogonal component) where $\Gamma - \Gamma' = 2l\pi$
$2\Gamma + 2m_3 \pi$ , $2\Gamma + 2m_2 \pi$ , $\Gamma + 2m_1 \pi$	$\varphi_3, \varphi_2, \varphi_1$	$\Gamma' + 2k_1 \pi$ , $2\Gamma' + 2k_2 \pi$ , $2\Gamma' + 2k_3 \pi$	$\pm \varphi_1, \pm \varphi_2, \pm \varphi_3$ (parallel component) $90^\circ \pm \varphi_1, 90^\circ \pm \varphi_2, 90^\circ \pm \varphi_3$ (orthogonal component) where $\Gamma - \Gamma' = (2l + 1)\pi$

Wherein  $m_1, m_2, m_3, k_1, k_2, k_3$  and  $l$  are integers  $(0, \pm 1, \pm 2, \dots)$ .

7-11 (cancelled)

12 (currently amended): The interleaver as recited in ~~claim 1~~ claim 6, wherein the birefringent element assembly comprises a first birefringent element having an angular orientation of  $\varphi_1$ , a second birefringent element having an angular orientation of  $\varphi_2$  and a third birefringent element having an angular orientation of  $\varphi_3$ ;

wherein an order of the first birefringent element, second birefringent element, and third birefringent element is selected from the group consisting of:

first birefringent element, second birefringent element, third birefringent element; third birefringent element, second birefringent element, first birefringent element; and

wherein the angular orientations are with respect to a polarization direction of light entering the birefringent element assembly.

13 (currently amended): The interleaver as recited in ~~claim 1~~ claim 6, wherein the birefringent element assembly comprises:

a first birefringent element having an angular orientation of  $45^\circ$  with respect to a polarization direction of light input to the birefringent element assembly and has a phase delay of  $\Gamma$ ;

a second birefringent element has an angular orientation of  $-21^\circ$  with respect to a polarization direction of light input to the birefringent element assembly and has a phase delay of  $2\Gamma$ ; and

a third birefringent element has an angular orientation of  $7^\circ$  with respect to a polarization direction of light input to the birefringent element assembly and has a phase delay of  $2\Gamma$ .

14 (currently amended): An interleaver comprising: a birefringent element assembly providing two output components which are generally orthogonal to each other; and a reflector configured to direct the two components from the birefringent element assembly back through the birefringent element assembly;

~~The interleaver as recited in claim 1~~, wherein the birefringent element assembly comprises two birefringent elements; and

the angular orientations ( $\varphi_1$  and  $\varphi_2$ ) and the corresponding phase delays of the two birefringent elements are selected from the table:

Table III

<u>First Stage Phase Delays</u>	<u>First Stage Orientations</u>	<u>Second Stage Phase Delays</u>	<u>Second Stage Orientations</u>
$\Gamma + 2m_1 \pi$ , $2\Gamma + 2m_2 \pi$ , $2\Gamma + 2m_3 \pi$	$\varphi_1, \varphi_2, \varphi_3$	$2\Gamma' + 2k_3 \pi$ , $2\Gamma' + 2k_2 \pi$ , $\Gamma' + 2k_1 \pi$	$90^\circ \pm \varphi_3, 90^\circ \pm \varphi_2, 90^\circ \pm \varphi_1$ (parallel component) $\pm \varphi_3, \pm \varphi_2, \pm \varphi_1$ (orthogonal component) where $\Gamma - \Gamma' = 2l\pi$
$\Gamma + 2m_1 \pi$ , $2\Gamma + 2m_2 \pi$ , $2\Gamma + 2m_3 \pi$	$\varphi_1, \varphi_2, \varphi_3$	$2\Gamma' + 2k_3 \pi$ , $2\Gamma' + 2k_2 \pi$ , $\Gamma' + 2k_1 \pi$	$90^\circ \pm \varphi_3, 90^\circ \pm \varphi_2, 90^\circ \pm \varphi_1$ (parallel component) $\pm \varphi_3, \pm \varphi_2, \pm \varphi_1$ (orthogonal component) where $\Gamma - \Gamma' = (2l + 1)\pi$
$2\Gamma + 2m_3 \pi$ , $2\Gamma + 2m_2 \pi$ , $\Gamma + 2m_1 \pi$	$\varphi_3, \varphi_2, \varphi_1$	$\Gamma' + 2k_1 \pi$ , $2\Gamma' + 2k_2 \pi$ , $2\Gamma' + 2k_3 \pi$	$90^\circ \pm \varphi_1, 90^\circ \pm \varphi_2, 90^\circ \pm \varphi_3$ (parallel component) $\pm \varphi_1, \pm \varphi_2, \pm \varphi_3$ (orthogonal component) where $\Gamma - \Gamma' = 2l\pi$
$2\Gamma + 2m_3 \pi$ , $2\Gamma + 2m_2 \pi$ , $\Gamma + 2m_1 \pi$	$\varphi_3, \varphi_2, \varphi_1$	$\Gamma' + 2k_1 \pi$ , $2\Gamma' + 2k_2 \pi$ , $2\Gamma' + 2k_3 \pi$	$\pm \varphi_1, \pm \varphi_2, \pm \varphi_3$ (parallel component) $90^\circ \pm \varphi_1, 90^\circ \pm \varphi_2, 90^\circ \pm \varphi_3$ (orthogonal component) where $\Gamma - \Gamma' = (2l + 1)\pi$

Wherein  $m_1, m_2, m_3, k_1, k_2, k_3$  and  $l$  are integers  $(0, \pm 1, \pm 2, \dots)$ .

15 (currently amended): The interleaver as recited in ~~claim 1~~ claim 14, wherein the birefringent element assembly comprises:

a first birefringent element having an angular orientation of  $45^\circ$  with respect to a polarization direction of light input to the birefringent element assembly and has a phase delay of  $\Gamma$ ; and

~~the~~ a second birefringent element has an angular orientation of  $-21^\circ$  with respect to a polarization direction of light input to the birefringent element assembly and has a phase delay of  $2\Gamma$ ;

16-18 (cancelled)

**Correction to Typos in Table III for Claim 6:**

In the patent publication US 2003/0025998 A1 (Feb. 6, 2003), there are four typos for Table III under claim 6 and paragraph [0143]:

“100<sub>1</sub>” (happened at two places) should be “ $\varphi_1$ ” and “100<sub>3</sub>”( happened at two places) should be “ $\varphi_3$ ”, respectively.

Table III in the specification paragraph [0129] is correct. Please help to make correction if this application is allowed to issue.